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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,537	08/18/2003	Seok-Hwan Hwang	793-US	4268

7590 06/28/2004

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EXAMINER

GELLNER, JEFFREY L

ART UNIT	PAPER NUMBER
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3643

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,537

Applicant(s)

HWANG ET AL.

Examiner

Jeffrey L. Gellner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3 Nov. 2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Acknowledgement is made of Applicant's IDS received 3 November 2003.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file. However, to perfect priority a translation of the application in English is needed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The step of placing the aerobically culturing mushroom mycelia critical or essential to the practice of the invention is not included in the claims (specifically claims 1 and 4). Therefore, claims 1 and 4 are drawn to growing mycelia in a reactor but not in a medium or solution which is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: In claims 1 and 4, the steps of placing the mycelia in the medium then placing the medium/mycelia combination in the reactor.

Claim Rejections - 35 USC §103

The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keggin et al. (US 4,544,637) in view of JP62-278922.

As to claim 1, Keggin et al. discloses a method for treating whey (abstract) comprising the step of separating proteins (abstract) from a whey stock solution ("sweet whey" of abstract) to make a medium (for example, example 1 of col. 8), adjusting the medium to pH 3.8-6 (col. 9 lines 61-3) and growing an aerobic organism (Table 9 of col. 10). Not disclosed is the organism being mushroom mycelia and placing in a reactor at 25-32 C. JP62-278922, however, discloses using a whey medium in growing mycelia (abstract in English) and it is old and notoriously well known to grow mushrooms in a reactor at between 25 and 32 C. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Keggin et al. by using with mushrooms as disclosed by JP62-278922 so as to use a medium which also uses discarded soybean lees so as to recycle a waste product.

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As to Claim 2, the limitations of Claim 1 are disclosed as described above. Not disclosed is the reactor set at 28.3 C and pH of 4.2. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Keggins et al. as modified by JP62-278922 so as to optimize the reactor so as to achieve a particular growth rate with a particular mushroom species.

As to claim 4, Keggins et al. discloses a method of culturing and organism (abstract) comprising the step of separating proteins (abstract) from a whey stock solution ("sweet whey" of abstract) to make a medium (for example, example 1 of col. 8), adjusting the medium to pH 3.8-6 (col. 9 lines 61-3) and growing an aerobic organism (Table 9 of col. 10). Not disclosed is the organism being mushroom mycelia and placing in a reactor at 25-32 C. JP62-278922, however, discloses using a whey medium in growing mycelia (abstract in English) and it is old and notoriously well known to grow mushrooms in a reactor at between 25 and 32 C. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method of Keggins et al. by using with mushrooms as disclosed by JP62-278922 so as to use a medium which also uses discarded soybean lees so as recycle a waste product.

As to Claim 5, the limitations of Claim 4 are disclosed as described above. Not disclosed is the reactor set at 28.3 C and pH of 4.2. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Keggins et al. as modified by JP62-278922 so as to optimize the reactor so as to achieve a particular growth rate with a particular mushroom species.

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Claims 3 and 6 are rejected under 35 U.S.C. §103(a) as being unpatentable over Keggins et al. (US 4,544,637) in view of JP62-278922 in further view of JP2000-201647.

As to Claim 3, the limitations of Claim 1 are disclosed as described above. Not disclosed is the mushroom being *G. lucidum*. JP2000-201647, however, discloses growing *G. lucidum* on a medium. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Keggins et al. as modified by JP62-278922 by growing *G. lucidum* as disclosed by JP2000-201647 so as to have a useful foodstuff (see JP2000-201647 at abstract in English).

As to Claim 6, the limitations of Claim 4 are disclosed as described above. Not disclosed is the mushroom being *G. lucidum*. JP2000-201647, however, discloses growing *G. lucidum* on a medium. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the method of Keggins et al. as modified by JP62-278922 by growing *G. lucidum* as disclosed by JP2000-201647 so as to have a useful foodstuff (see JP2000-201647 at abstract in English).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kobayaski disclose in the prior art that bacterial cultures can be used to grow mushrooms. Hawang et al. discloses the instant application's pre-grant publication.

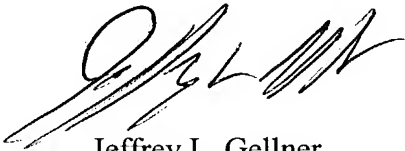
Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Jeffrey L. Gellner whose phone number is 703.305.0053. The

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Examiner can normally be reached Monday through Thursday from 8:30 am to 4:00 pm. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Peter Poon, can be reached at 703.308.2574. The official fax telephone number for the Technology Center where this application or proceeding is assigned is 703.872.9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.1113.

A handwritten signature in black ink, appearing to read 'J. L. Gellner', with a stylized flourish at the end.

Jeffrey L. Gellner